

Dynamic Design: Launch and Propulsion

Genesis Launch Vehicle: The Delta Rocket

TEACHER GUIDE: POWERPOINT PRESENTATION

BACKGROUND INFORMATION

The PowerPoint presentations that are provided as Genesis educational technology applications should be used as a supplement to the student texts from which they were derived. They offer an alternative way of assisting student learning of information contained in the text.

In constructing PowerPoint presentations, adding too much text to the slide is not visually pleasing to the student. Because sharing slide notes is vital for complete understanding of the concepts, notes are provided for the teacher. Therefore it is important to read and print out the slides and the teacher talking points that accompany them.

While showing the slides to your students, we encourage you to use the teacher talking points that accompany the slides. Ask the students to consider the graphics that are on each slide. The images and graphs that accompany the text will generate questions that can be explored further, either in the student text itself or with additional research.



NATIONAL SCIENCE STANDARDS ADDRESSED

Teaching Standards

Teaching Standard A: Teachers of science plan an inquiry-based science program for their students

Select science content and adapt and design curricula to meet the interests, knowledge, understanding, abilities and experiences of students.

Select teaching and assessment strategies that support the development of student understanding and nurture a community of science learners.

Teaching Standard B: Teachers of science guide and facilitate learning

Focus and support inquiries while interacting with students.

Orchestrate discourse among students about scientific ideas.

Encourage and model the skills of scientific inquiry, as well as the curiosity, openness to new ideas, and skepticism that characterize science.

Teaching Standard D: Teachers of science design and manage learning environments that provide students with the time, space, and resources needed for learning science

Create a setting for student work that is flexible and supportive of science inquiry.

Make the available science tools materials, media, and technological resources accessible to students.

Content Standards

Grades 5-8

Science As Inquiry

Understandings about scientific inquiry

Science and Technology

Understandings about science and technology

[History and Nature of Science](#)

History of science

Grades 9-12[Science As Inquiry](#)

Understandings about scientific inquiry

[Science and Technology](#)

Understandings about science and technology

[History and Nature of Science](#)

Historical perspectives

(View a full text of the [National Science Education Standards](#).)

MATERIALS

For the Teacher

- Computer with Microsoft® PowerPoint application
- Computer projector or overhead projector with LCD Panel
- “Genesis Launch Vehicle: The Delta Rocket” PowerPoint presentation

For each student

- Copy of [Student Text, “Genesis Launch Vehicle: The Delta Rocket”](#)

PROCEDURE

- The “Genesis Launch Vehicle: The Delta Rocket” student text is to be used with the activity in the Genesis science education module Dynamic Design: Launch and Propulsion.
- Begin by asking students to recall any experiences they have about witnessing a rocket launch, whether that be one in Florida or a model rocket. Allow students to share their stories. If no one in the class mentions any experience, relate a story from your past.
- Hand out copies of the Student Text, “Genesis Launch Vehicle: The Delta Rocket,” and assign it as student reading to be completed before the next class session.
- Use the video and audio clips of Boeing mission integration manager, Kris Walsh, to augment the presentation. See the teacher notes for details.
- Conclude the PowerPoint presentation with a brief description of the Genesis trajectory, and what and where L1 is. See “L1 or Bust” student text from the *Destination L1* module for more details.

TEACHER RESOURCES

<http://www.genesismission.org/educate/kitchen/techappl/invigor.html>

Invigorate Your Presentations

<http://www.ksc.nasa.gov/elv/launchcomplex17.htm>

Launch complex 17

<http://www.nasm.edu/nasm/dsh/artifacts/SS-ariel1.htm>

Ariel 1

<http://www.nasm.edu/nasm/dsh/artifacts/SS-OSO1.htm>

Orbiting Solar Observatory